Interstate 69- SIU 5

Kentucky Specific Benefit Analysis

Limitations & Assumptions:

- The Kentucky Statewide Model is a 48 state model. However, only trips that pass through Kentucky are in the model. Therefore, trips were estimated using a 2005 study by Wilbur Smith Associates for Section 5 through Kentucky. According to that report 30,000-50,000 vehicles/day will use the Kentucky corridor in 2030. Trucks currently make up 21% of the 12,000 vehicles using the Kentucky corridor.
- The speeds along the proposed corridor were estimated to be a nominal speed of 70 MPH, except in the vicinity of communities. Truck speeds were set at 66 MPH to account for longer acceleration/de-acceleration times.
- All other speeds used in the model are the result of model calibration and considered ramp geometry, travel time data, and historical ADT counts to approximate realistic simulations.
- Route alignments through Illinois and Tennessee are based on information from their respective Transportation Websites. The improvements in distance were primarily due to improved alignments through Tennessee (83%) and Indiana (17%). Therefore, only time savings were applied to the Kentucky Section.
- The Kentucky Statewide Model simulates daily traffic and estimated the time savings through Kentucky. However routes between Indianapolis and Memphis require traffic to pass in the vicinities of Louisville and Nashville to the east or Saint Louis to the West. Delays due to congestion through these metropolitan areas were not considered when estimating time saving benefits.
- KYTC reviewed three year analysis of operations and maintenance costs I-75 in Laurel and Whitley Counties and I-64 in Rowan and Carter Counties. Based on this, a good value for annual maintenance costs on rural interstates is $6500 per mile. This would be for both directions. On a statewide basis, the annual cost for ALL interstates is about $15,000 per mile. This includes both concrete and asphalt pavements, urban areas, and many facilities with 6-8 lanes.
- Three years of real crash data were used to determine future crash estimates. According to the Corridor 18 Special Issues Study (1997), I-69 will generate a 10% few crashes. The following are the savings over 20 years:
    - 6 fatalities in Kentucky (Section 5 only)
    - 224 injuries in Kentucky (Section 5 only)

    - 753 property accidents in Kentucky (Section 5 only)
- The Kentucky Transportation Center at the University of Kentucky compiled in 2009 costs for accidents from 2007-2009. The results from the report are as follows:
    - $4,200,000 per fatality (2010 Dollars)
    - $ 94,575 per injury (2010 Dollars)
    - $ 7,120 per property (2010 Dollars)
- Vehicle operating costs have two components for each vehicle type. Here values from a 1990 study were used to estimate 2010 costs for trucks and cars. Occupancy and a 12% cost of inflation factor were used to arrive with the following:
    - $ 21.18/hour for Trucks
    - $ 15.05/hour for Cars

I-69 Data Sources

http://www.interstate-guide.com/i-069.html

This is a link to AAROADS Interstate Guide, last updated August 20, 2008 and emphasizes the section between Lancing, Michigan and Indianapolis, Indiana.

http://www.tdot.state.tn.us/i69/map.htm

This link contains information regarding the Tennessee section of the proposed I-69 corridor

http://www.tdot.state.tn.us/information-office/I69/segment9/maps/segment_map.pdf

www.tdot.state.tn.us/I69/segment8/maps/i-69s41.pdf